DOCUMENT RESUME

ED 463 529 CS 510 854

AUTHOR	Rhodes-Kline, Anne K.
TITLE	State of Maine Reading Recovery[R] Report and Evaluation, 1994-1995.
INSTITUTION	Maine Univ., Orono. Center for Early Literacy.
SPONS AGENCY	Maine State Dept. of Education, Augusta.
PUB DATE	1995-00-00
NOTE	36p.
PUB TYPE	Reports - Evaluative (142)
EDRS PRICE	MF01/PC02 Plus Postage.
DESCRIPTORS	Early Intervention; Grade 1; *High Risk Students; *Literacy; Primary Education; *Program Effectiveness; *Reading Programs; Remedial Programs; *State Programs; Student Educational Objectives
IDENTIFIERS	*Maine; *Reading Recovery Projects

ABSTRACT

This report summarizes and evaluates the Reading Recovery (RR) program across the state of Maine for the 1994-95 school year. The report examines the children who were served, their progress through the program, and their performance on various measures of literacy skill. It states that about 41% of all children in Maine who were eligible for Reading Recovery were served in 1994-95. It points out that 72% of program children (those who received the full RR program) were successfully discontinued (they met the program goals); 54% of all the children who were served by RR (those who received at least one lesson) were successfully discontinued. The report notes that children who were successfully discontinued from Reading Recovery caught up to other first graders on measures of literacy. It explains that at fall testing, children identified as needing Reading Recovery were lower in text reading ability than the "random sample" comparison group (a sample not identified as needing RR), but that by spring, children who were successfully discontinued from the program reached the level of reading ability in the comparison group. The report states that an "average band" of the random sample students' scores on each of four literacy measures was calculated, based on the means and standards of deviation--between 74% and 89% of discontinued children's scores met or exceeded the four bands. The report also includes conclusions and recommendations. (Contains 8 footnotes, 11 figures, and 12 tables of data.) (NKA)

Reproductions supplied by EDRS are the best that can be made
from the original document.

ED 463 529

State of Maine Reading Recovery® Report and Evaluation

1994-1995

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY

P.F. Moore

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

1

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☐ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

Prepared by:
Dr. Anne K. Rhodes-Kline
Research Associate

Center for Early Literacy
College of Education
and
Maine Department of Education

CS 510 854

2

BEST COPY AVAILABLE

State of Maine
Reading Recovery®
Report and Evaluation

1994-1995

Prepared by:
Dr. Anne K. Rhodes-Kline
Research Associate

Center for Early Literacy
College of Education
and
Maine Department of Education

State of Maine
Reading Recovery®
Report and Evaluation
1994-1995

Dean, College of Education . . . . . Dr. Robert Cobb

University Site Coordinator . . . . . Dr. Rosemary A. (Salesi) Bamford

Trainer of Teacher Leaders and Center Director . . . . . Dr. Paula Moore

Research Associate . . . . . Dr. Anne K. Rhodes-Kline

Commissioner, Maine Department of Education . . . . . Dr. Wayne L. Mowatt

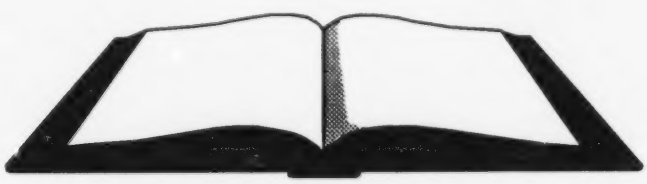
Director, Maine Division of Special Services . . . . . David Noble Stockford

Educational Specialist, Maine Division of Special Services . . . . . Kathryn Manning

Teacher Leaders and Adjunct Faculty . . . . .
Laura Cook, Melanie Ellsworth, Margaret Hawkins, Claire Hurd,
Patricia Jackman, Judith Karam, Sandra Lowry, Rebecca Mailloux,
Gael Romei, Nancy Todd

Site Coordinators at Local Teacher Training Sites . . . . .
Dean Baker, Benton; Arthur W. Benner, Caribou; Robert Ervin, Bangor;
Robert Hall, Westbrook; Gary Haynes, Howland; Jan Hoffman, Wiscasset;
Anne Holt, Bethel; Cheryl Jensen, South Portland; Sally LeClair, Belfast;
Ronald Ramsay, Harrington/Machias

Administrative Assistant . . . . . Susan Russell



Published by:
Center for Early Literacy
College of Education
University of Maine

Table of Contents

Executive Summary 1

Reading Recovery in Maine, 1994-95 3

- Children Served 5
- Discontinuation 7
- Progress and Achievement of Children 11
- The Average Band 15
- Number of Lessons 17
- Maintaining Progress after Discontinuation 21
- Services for Children on the Waiting List 23
- Attitudes About the Program 27

Conclusions and Recommendations 35

References 37

Executive Summary

- **This report summarizes and evaluates the Reading Recovery program across the state of Maine for the school year 1994-95.** It examines the children who were served, their progress through the program, and their performance on various measures of literacy skill. The program is reviewed and evaluated, and recommendations and conclusions are offered.

- **About 41% of all children in Maine who are eligible for Reading Recovery were served by the program in 1994-95.** The demographic characteristics of children served by the program were similar to those of children statewide, but more children in the Reading Recovery program received free or reduced lunches than did a random sample of children who were not selected for the program.

- **Seventy-two percent (72%) of program children (those who received the full Reading Recovery program) were successfully discontinued (they met the program goals).** Fifty-four percent (54%) of all the children who were served by Reading Recovery (those who received at least one lesson) were successfully discontinued. The remaining children were either withdrawn from the program or they were still in the program when the school year ended. The discontinuation rate was higher for trained Reading Recovery teachers than for teachers-in-training.

- **Children who were successfully discontinued from Reading Recovery caught up to other first graders on measures of literacy.** At fall testing, children identified as needing Reading Recovery were lower in text reading ability than the "random sample" comparison group (a sample of children not identified as needing Reading Recovery). However, by spring, children who were successfully discontinued from the program reached the level of reading ability of the comparison group. Discontinued Reading Recovery children's progress was better than that of the children on the program's waiting list, and it was better than the progress of the children who did not discontinue from the program. This pattern was evident for four different measures of literacy.

- **An "average band" of the random sample students' scores on each of four literacy measures was calculated, based on the means and standard deviations.** Between 74% and 89% of discontinued children's scores met or exceeded these four bands. The percentages were much smaller for the waiting list group and the not-discontinued group.

- **There was wide variation in the number of lessons and the number of weeks necessary for children to discontinue.** The average number of lessons was 64, but some children discontinued with fewer than 5. Others needed more than 100. The average number of weeks was 17; the range was from 1 to 35. Children come into the program with different needs.

- **Children who discontinued prior to April 20th continued to make progress to the end of the year.** One of the aims of Reading Recovery is to help children develop strategies that enable them to learn on their own after the program is over. Their progress after they are discontinued testifies to the program's success in this respect.

- **A literacy group taught by a trained Reading Recovery teacher was a worthwhile intervention for children on the waiting list.** In districts where resources were available, children on the program's waiting list were given a temporary intervention. Some received help in the form of a literacy group taught by a trained Reading Recovery teacher. These children's progress was compared to the progress of waiting-list children receiving some other kind of remedial help and to those who received no extra help. None of the interventions was as beneficial as Reading Recovery, but a literacy group taught by a trained Reading Recovery teacher was more beneficial than other forms of assistance.

- **The literacy groups taught by trained Reading Recovery teachers benefitted children who entered Reading Recovery in the second half of the year.** Although the literacy group with the trained Reading Recovery teacher did not significantly change these children's time to discontinuation, it did improve their progress on two out of four measures of literacy, compared to other forms of assistance.

- **Attitudes of parents, teachers, and administrators associated with the Reading Recovery program were enthusiastic and supportive.** Surveys were collected from parents, administrators, classroom teachers, and Reading Recovery teachers. When asked to rate Reading Recovery from 1 (not a good program) to 5 (a very good program), the average response was a 4.9. Comments were extremely positive from all groups.

Reading Recovery in Maine, 1994-95

Reading Recovery is an early intervention program for first graders who are not learning to read as quickly as their peers. The program targets the bottom 20% of a first grade classroom. It involves an intensive one-on-one session between the at-risk child and the Reading Recovery teacher for 30 minutes a day, five days a week. The extra instruction is short-term; students are released from the program as soon as they have achieved the average literacy level of the other first graders in the class. However, the effects are expected to be long term. The philosophy behind Reading Recovery is that by solving reading difficulties early on, students who would have floundered in school due to literacy difficulties will be able to succeed, since nearly all school subjects require a foundation of reading and writing. Reading Recovery teachers study literacy learning intensely for a year as part of their specialized training. For a thorough description of the Reading Recovery program, please refer to Clay (1991, 1993).

The data in this report were gathered by the Reading Recovery teachers and Teacher Leaders across the state of Maine. Data were scanned at the National Reading Recovery Data Evaluation Center in Columbus Ohio, and sent back to the University of Maine Center for Early Literacy. Despite very careful coding and checking of the data scan sheets by Maine teacher leaders, 17 children had conflicting or missing information regarding essential variables such as program status or group. Data from these children were excluded from the report.

Table 1 shows the number of children across the state of Maine who may need Reading Recovery and the number who received services. Based on this table, it is reasonable to project that the Reading Recovery program should more than double in size in order to meet the needs of all children in Maine who need it. The map on the following page represents the presence of Reading Recovery throughout the state. Towns which have adopted the Reading Recovery program in at least one school are shaded. It is hoped that as the successes of the program become well-known, more schools across Maine will implement the program, allowing more towns to benefit from the achievement of their students.

Table 1.
Estimated Number of First Graders across Maine Eligible for Reading Recovery and the Number Served
1994-95

First Graders, 1994-95 (enrolled in public school)	Estimated Number Eligible for Reading Recovery (20%)	Number Served, 1994-95
17,117*	3423	1403 (41%)

* Maine State Department of Education data

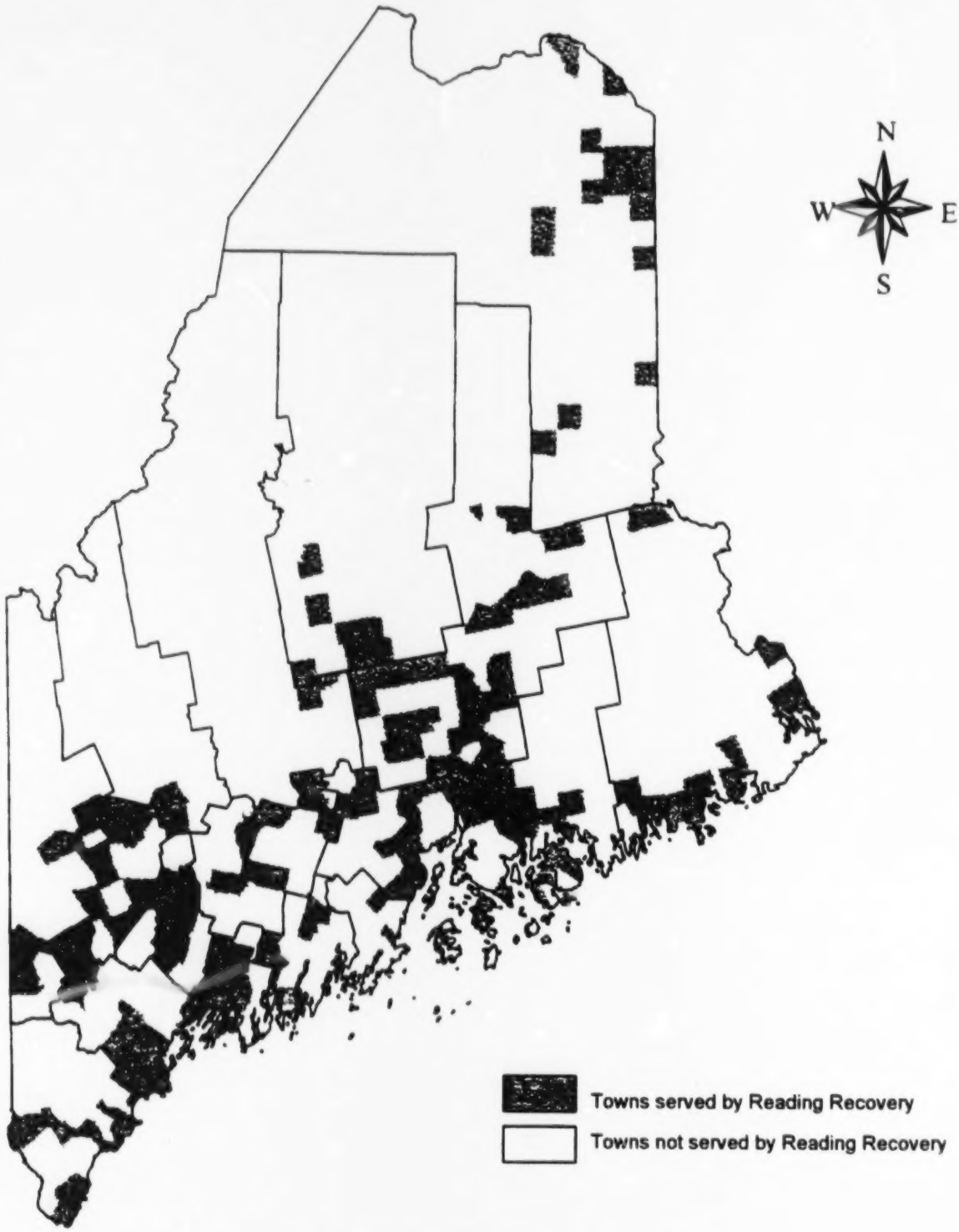


Figure 1. Map of Maine showing towns with Reading Recovery in at least one school.

Children Served

The Reading Recovery program in Maine entered its fourth year in 1994-1995. Ten Teacher Leaders, 132 Trained Reading Recovery Teachers, and 83 Teachers-in-Training served a total of 1403 students through Reading Recovery.

Statewide, Reading Recovery students in Maine were comparable to non-Reading Recovery students in many respects. Table 2 displays the demographic composition of both groups. Data for first graders statewide are based on a random sample of children drawn, for the purposes of comparison, from schools which have implemented Reading Recovery. None of the children from the random sample group received Reading Recovery, so it should be noted that this sample is not *strictly random*.

There were slightly more boys in Reading Recovery than girls. The measured characteristic on which Reading Recovery children and random sample children differed the most was the economic status of the child's family, as measured by how much the child's school lunch cost. Among children about whom the information was available, 58% of Reading Recovery students received free or reduced lunches. This compares to about 37% of first graders from the random sample.

Table 2.
Characteristics of Children in Reading Recovery and Statewide
1994-95

	Reading Recovery Children	Random Sample of First Graders
Race	95% white non-Hispanic 3% native American 1% black non-Hispanic	96% white non-Hispanic 2% native American 2% black non-Hispanic
Sex	59% boys 41% girls	48% boys 52% girls
Language	99% English	99% English
Lunch Cost*	49% Free 9% Reduced	29% Free 8% Reduced

* Percentages based on children from whom information was available, about 75% of both groups for this variable

Discontinuation

Children who are successful in achieving the level of literacy of the other students in their classrooms are **discontinued** from the Reading Recovery program. Another student in need of Reading Recovery services can then be started in the program, in the discontinued child's place. The rate of discontinuation indicates the percentage of children for whom the program is successful. Children who are not discontinued by the end of the year were either **withdrawn** from the program during the year (in some circumstances, such as severe behavior problems which are incompatible with the Reading Recovery lesson, a child will be referred to another program) or are still in the program at the end of the year. Some children who need Reading Recovery are not started in the program until late in the spring semester (often due to too few Reading Recovery teachers). These children receive too few lessons for discontinuation to be a realistic possibility by the end of the year.

Two rates of discontinuation are given. Table 3 shows the percentage of all children who received Reading Recovery (even if only one lesson) who discontinued during the year. Table 4 includes only children who received sixty or more Reading Recovery lessons. Of children who discontinue from the program, sixty is the number which traditionally has been used as a cutoff point for whether a child has received the full program. Sixty lessons is the average number of lessons necessary for discontinuation in many states. The traditional definition of the full Reading Recovery program is either at least sixty lessons or discontinuation. Children who have either discontinued or who have received sixty or more lessons (or both) are referred to as **program children**. Table 5 gives the percentage of program children who discontinued.

Fifty-four percent (54%) of all the children served (with at least one lesson) discontinued. Sixty percent (60%) of children who received at least 60 lessons discontinued. Seventy-two percent (72%) of program children discontinued. It should be emphasized that Table 5 will be most useful for comparisons with other Reading Recovery reports.

Table 3.
Discontinuation Rate of All Children Served
1994-95

Total Served	Discontinued	% Discontinued
1403	754	54%

Table 4.
Discontinuation Rate of Children Who Received at Least Sixty Lessons
1994-95

Number of Children Who Received 60 or More Lessons	Discontinued	% Discontinued
725	432	60%

Table 5. Discontinuation Rate of "Program" Children (Received at Least Sixty Lessons or Discontinued) 1994-95		
Number of "Program' Children	Discontinued	% Discontinued
1047	**754**	**72%**

The Reading Recovery program aims to discontinue all children, but this is not always possible. Some children move to a school district without Reading Recovery; others are absent so often that continuity in instruction is a problem. Table 6 and Figure 2 show the end-of-the-year status for all children served (i.e., those who had at least one lesson) in 1994-95.

Table 6. Numbers of Reading Recovery Children in Each Status Group 1994-95						
End of Year Program Status	Total Served	Discontinued	In Program at End of Year, 60+ Lessons	In Program at End of Year, <60 Lessons	Withdrawn, 60+ Lessons	Withdrawn, <60 Lessons
N	1403	754	205	259	88	97

Figure 2. End of Program Status of Reading Recovery Children.

Children in the largest piece of pie (53.7%) discontinued from the program successfully, regardless of how many lessons they received. Children who were withdrawn, either with fewer than sixty lessons (6.9%), or at least sixty lessons (6.3%), were removed from the program. In some of these cases, a decision was made to move a child to an alternate program that could better serve his or her needs. In other cases, a child's family moved to a school district that did not have Reading Recovery. Current tracking procedures do not chart what percentage of Reading Recovery children are withdrawn because they moved to another district. Children who were still in the program at the end of the year, either with fewer than sixty lessons (18.5%), or with at least sixty lessons (14.6%), were neither withdrawn nor discontinued. Some of these children did not start the program until the spring semester, and they might have discontinued had the school year been longer. Some of these children moved to school districts with Reading Recovery, but were not served because there were not enough resources to accommodate them in the middle of the year.

Since Reading Recovery teachers begin instruction in their very first year, while they are still in training, they are likely to have a lower discontinuing rate than trained teachers. The difference in discontinuing rates for in-training and trained Reading Recovery teachers is shown in Table 7. It is reasonable to expect that, as full implementation is reached in Maine, the overall discontinuing rate will increase. That is, as a greater percentage of Reading Recovery teachers are trained (rather than in-training) the program should be even more effective at discontinuing a high percentage of children. In 1994-95, 39% of the Reading Recovery teachers were in training.

Table 7.
Rates of Discontinuation for All Children Served
by Teachers-in-Training and Trained Reading Recovery Teachers

Status of Teacher	Total Served	Discontinued	% Discontinued
All	**1403**	**754**	**54%**
In Training	436	190	44%
Trained	967	564	58%

Progress and Achievement of Children

Comparison Groups

Data were collected on three groups of children. **Reading Recovery children** are children who have had at least one Reading Recovery lesson. Some children who are identified as needing Reading Recovery services do not start Reading Recovery immediately, due to insufficient resources. The children with the greatest needs are always started first. Others in need of Reading Recovery are placed on a waiting list. As each child is either discontinued or withdrawn, a space is available for a child from the waiting list. If a child is on the waiting list all year, and is never given a Reading Recovery lesson, he or she is considered a **waiting list child**. Waiting list children provide a good comparison group by which to chart Reading Recovery children's progress.

Random sample children are children sampled from the population of children in each first grade class for whom Reading Recovery was not indicated. Essentially, these children represent the top 80% of each first grade class. The goal of Reading Recovery is to accelerate the bottom 20% of students so that their literacy skills are at the average level of students from this top 80%. Consequently, Random Sample children are also a valuable comparison group for Reading Recovery children.

Measures of Literacy

Four measures were used to assess literacy skills for the three groups of first grade children (Random Sample, Waiting List, and Reading Recovery). **Text Reading Level** represents the highest book in a series, ranked for difficulty, that the child could read with 90% accuracy. Levels can range from 0 (inability to read "No, no, no," at the lowest level) to 30 (about a sixth-grade reading level). The **Ohio Word Test** asks children to read a list of 20 high-frequency words. The child's score indicates the number of words read correctly. For the **Dictation** test, a sentence is read to the child, and he or she is asked to write the words. The test measures the child's ability to analyze words for sounds. Every sound represented correctly is scored as a point. On the **Writing Vocabulary** test, children write down all the words they know how to write in ten minutes. Each correct word, including the child's own name, is counted as one point. These four measures were taken both in the spring and in the fall, so the progress of all three groups can be compared. The measures were also taken at entry into and exit from the Reading Recovery program.

Text reading, the Ohio word test, and the dictation test all have ceilings. For example, the highest score a child can get on the Ohio word test is 20. This was not a problem in the fall, when few if any children received the highest possible scores on these three measures. However, at spring testing, many children from all groups reached these ceilings. It is therefore unclear how much higher some scores would have been without these constraints. While the writing vocabulary test does not have an explicit ceiling, the highest score a child can receive is constrained by the ten minute time limit.

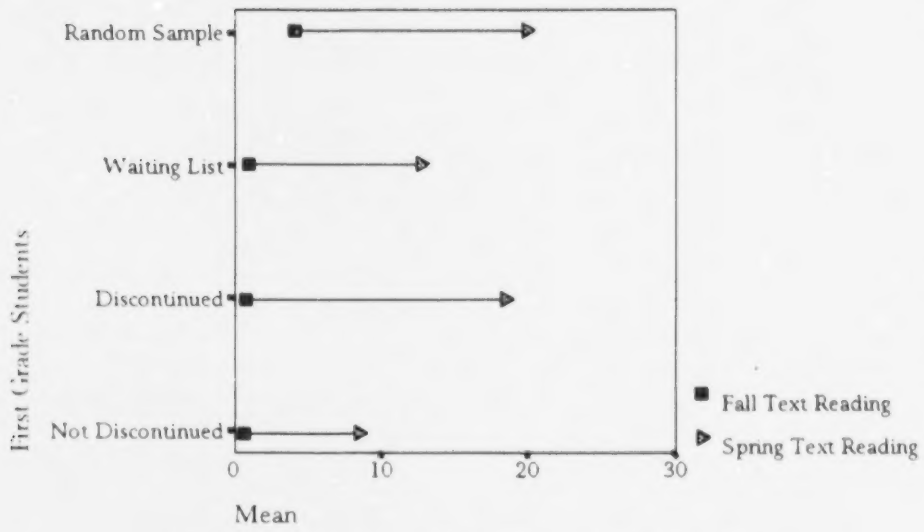


Figure 3. Progress of All Children - Text Reading

The progress of all the children in the study on text reading is summarized in Figure 3. Note that Reading Recovery children are broken down into those who successfully discontinued and those who did not. The random sample children started out with higher text reading levels than all the others,[1] but the children who received Reading Recovery and who discontinued from the program made accelerated progress and caught these peers[2]. Waiting list children and not-discontinued children did not make this accelerated progress, although all children progressed. Because of ceiling effects on text reading in the spring for some random sample and discontinued children, the significance test should be interpreted with caution.

The same general pattern occurred on all four tests. Table 8 gives the means and standard deviations, for both fall and spring, on these four measures for Reading Recovery children. Note that in Table 8 the not-discontinued children are broken down into four groups:

---

[1] Omnibus one-way ANOVA, $F_{3,3041} = 185.8$, $p<.001$; Bonferroni test reveals that the random sample group is statistically different from the other three groups in the fall at $p<.05$, while the three Reading Recovery groups do not differ statistically from each other. The Bonferroni test is a rigorous post-hoc statistical procedure for testing pairwise differences. It adjusts the significance level of the test to avoid a spurious result.

[2] Omnibus one-way ANOVA, $F_{3,3021} = 480.0$, $p<.001$; Bonferroni test reveals that all six possible pairwise comparisons are significant at $p<.05$. That is, random sample children are significantly higher than discontinued children, waiting list children, and not-discontinued children; discontinued children are significantly higher than waiting list children and not-discontinued children; waiting list children are significantly higher than not-discontinued children.

in the program with fewer than 60 lessons, in the program with more than 60 lessons, withdrawn with fewer than 60 lessons, and withdrawn with more than 60 lessons.

Table 8.
Fall and Spring Scores of Reading Recovery Children
by End of Year Program Status

Time of Testing	Discontinued		In Program at End of Year, 60+ Lessons		In Program at End of Year, <60 Lessons		Withdrawn, 60+ Lessons		Withdrawn, <60 Lessons	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Text Reading										
Fall	0.82	1.0	0.55	0.8	0.83	0.9	0.58	0.8	0.53	1.3
Spring	18.39	4.1	9.22	3.8	9.18	3.9	6.08	3.9	4.49	3.6
Writing Vocabulary										
Fall	5.34	4.5	3.09	2.3	5.62	3.8	2.52	2.0	2.63	2.3
Spring	48.24	12.6	37.29	12.0	37.77	12.9	28.36	11.2	21.54	11.9
Dictation										
Fall	7.81	6.7	3.95	4.1	8.91	6.4	2.56	2.8	3.20	4.3
Spring	35.53	1.6	32.47	5.0	32.53	4.3	27.89	7.5	23.26	9.7
Ohio Word										
Fall	0.54	1.4	0.15	0.5	0.52	1.3	0.11	0.4	0.13	0.5
Spring	18.06	2.1	14.10	4.3	13.22	4.6	8.63	5.1	6.95	5.1

The Average Band

For each of the four dependent measures, the "average band" is defined as the mean score of the random sample children, plus or minus half of the standard deviation. This yields a range within which most of the random sample children's scores fall. One measure of success is whether or not a Reading Recovery child's scores are within (or above) this average band. Table 9 shows the random sample children's means and standard deviations for each of the four tests and the resulting average bands.

Table 9.
Average Bands of Spring Scores for Four Variables
Based on the Random Sample Means and Standard Deviations

Variable Name	Mean	Standard Deviation	Average Band
Ohio Word Test	18.17	3.12	16.61 - 19.73
Text Reading	19.91	7.96	15.93 - 23.89
Dictation	35.01	3.31	33.36 - 36.67
Writing Vocabulary	47.32	15.42	39.61 - 55.03

Each Reading Recovery site in Maine computes its own average bands for the four tests, and these bands vary, as do children across the state. Table 9 displays the statewide average bands. The purpose of Reading Recovery is to catch a child up with his or her peers in his or her own school, so that his or her learning experience at that school will be fruitful, not to compare him or her with a statewide standard. It is informative, however, from a statewide perspective, to examine how many children met or exceeded the statewide average bands. It is important to note that some children who did not meet a statewide average band may have met or exceeded the average band in their own schools. Conversely, some children who met or exceeded a statewide band may have not met their own schools' band.

Table 10 shows the percentages of four groups who met or exceeded the average band at spring testing: discontinued Reading Recovery students, not-discontinued Reading Recovery students, waiting list students, and random sample students. The table emphasizes the meaning and use of the statewide "average band." Note that the population of children from whom the average band was drawn (random sample children) has roughly *two thirds to three quarters* of its own members meeting or exceeding this average band. The discontinued Reading Recovery students' percentages are even slightly higher than that of the random sample students, which provides dramatic evidence of Reading Recovery's statewide impact. It is important, when considering the meaning of the "average band," to not assume all random sample children meet or exceed it.

Table 10. Percentages of Children Meeting or Exceeding the Statewide Average Band on Four Spring Measures				
	Ohio Word Test	Text Reading Level	Dictation	Writing Vocabulary
Waiting List Children	55%	36%	57%	45%
Not-discontinued RR Children	24%	4%	41%	31%
Discontinued RR Children	76%	81%	89%	74%
Random Sample Children	75%	66%	77%	64%

Number of Lessons

The average number of lessons necessary to discontinue was sixty-four, and the average number of weeks of lessons (prior to discontinuation) was seventeen. These distributions are shown in Figures 4 and 5. The curved lines in the figures represent the

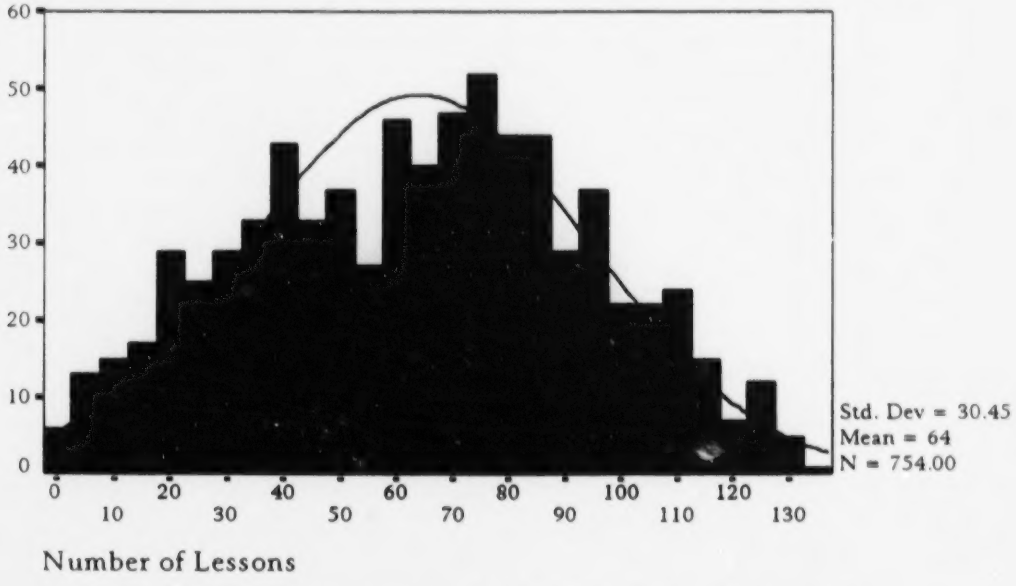


Figure 4. Number of Lessons Received Before Discontinuation.

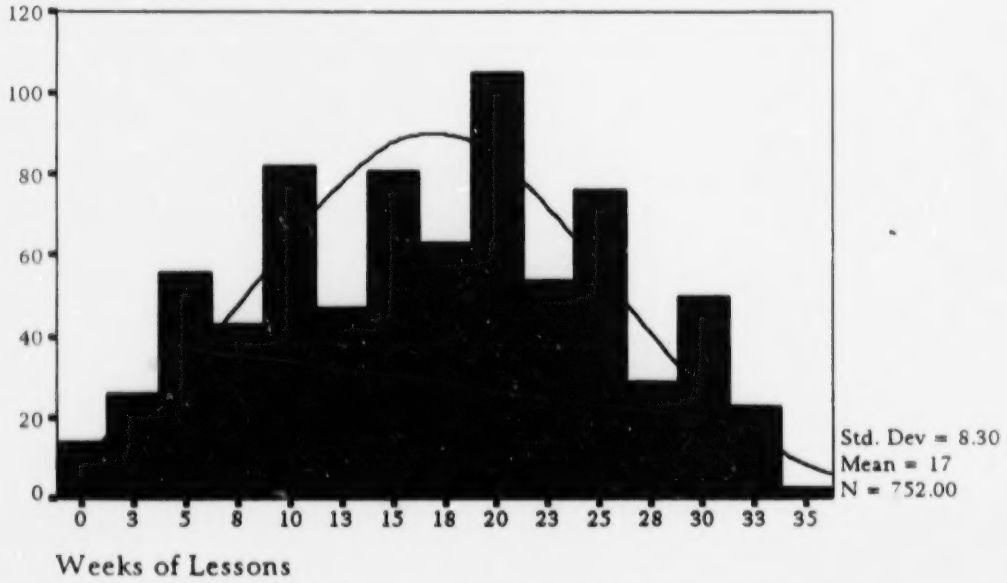


Figure 5. Weeks of Lessons Received Before Discontinuation.

(hypothetical) normal curve. The wide range of both number of lessons and number of weeks for discontinued children is notable, and it sets Reading Recovery apart from other kinds of instruction. Because the program builds upon each child's unique strengths, some children are able, with only a small number of lessons, to rapidly reach the literacy level of their classmates. Other children need additional time in the program, although they are equally successful at discontinuing.

An important consideration for the likelihood of discontinuation for a particular child is the month that the child enters the program. Because children who enter the program in September have access to a full program, these children have a very good chance of receiving enough lessons to discontinue. Children who do not start the program until February or March still have a good chance of receiving enough lessons to discontinue, but their progress must necessarily be faster. Children who start in May have a lower chance of receiving enough lessons to discontinue. Figure 6 shows the number of children entering the program in each of these months.

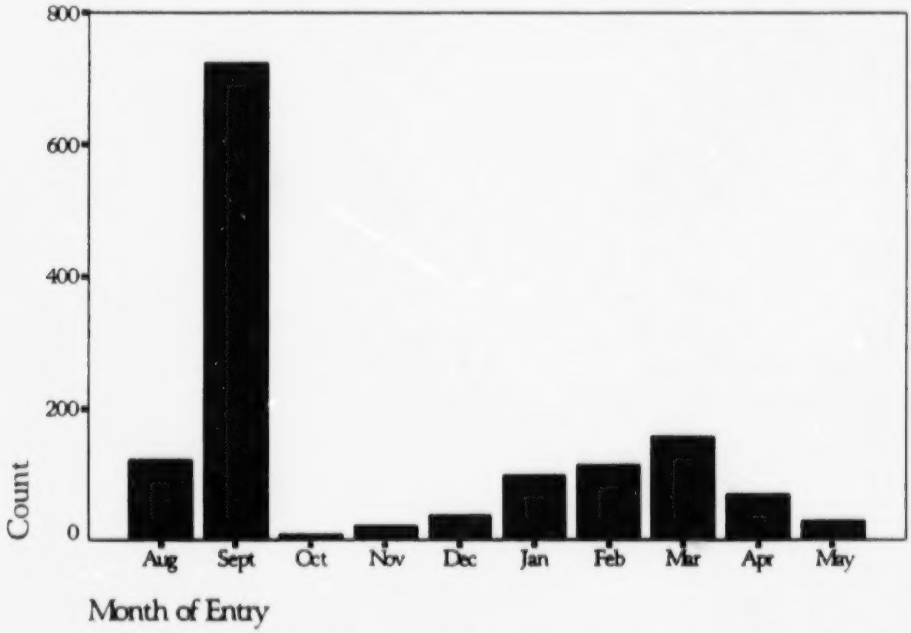


Figure 6. Month of Entry for all Reading Recovery Children.

Figure 7 shows the months during which children discontinued. Most children in Maine start the program in September (Figure 6) and discontinue in March (Figure 7). There are clear advantages for the Reading Recovery program when children who start in September discontinue by January. Once a Reading Recovery teacher has discontinued a child who started in September, the teacher can start a new child in the discontinued child's time slot. Children who must wait to start until March or April may not have enough lessons to

discontinue. However, discontinuation in December or January is only a realistic possibility in a district with five-day weeks, with no vacation days or child absences. In such a district, there would be about sixty days from September through December. Such circumstances are not realistic, however. The average number of lessons necessary for discontinuation is sixty-four, but many children do not receive the sixty-fourth lesson until March.

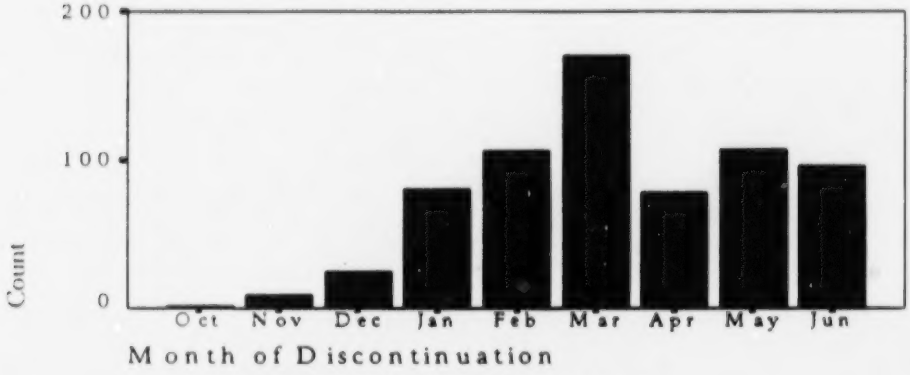


Figure 7. Month of Discontinuation.

It should be noted that late discontinuation for children who started in September is only a problem in schools where there are children on the waiting list. Some fully implemented sites, for example, choose to keep a difficult-to-teach child in the program through May or June because there are no other children waiting.

The average number of lessons per week (per child) was 3.3 (standard deviation = 1.3). This is a low number if five lessons per week are expected. Although child absences contribute to this number, holidays and field trips do as well. It is not realistic to expect a five-day-a-week program when most weeks are four days of in-school time.

The issue of number of lessons per week is important, especially at the district level. Regardless of whether missed lessons are due to illness, poor weather, or field trips, the main consequence of any reduction in program time is very likely a later month of discontinuation. Reading Recovery is different from school programs that merely aim for progress. Reading Recovery aims for acceleration of at-risk first graders, to catch them up to their peers. Intensity is an important feature of the program. It is therefore unfortunate when any factor prevents a child from getting five lessons a week.

Maintaining Progress after Discontinuation

One of the aims of the Reading Recovery program is to help each child to establish his or her own self-extending system for learning to read and write. The best Reading Recovery data available concerning children's continued success after discontinuing are the first grade data from children who discontinued before April 20. These children were tested again in the spring, and there is at least a month between their exit scores and their spring scores. Figure 8 shows their progress on text reading. Consistent with the goals of the program, text reading levels continued to rise after the children were discontinued. Progress on the other three measures of literacy, not shown, also continued to rise. Table 11 gives these data.

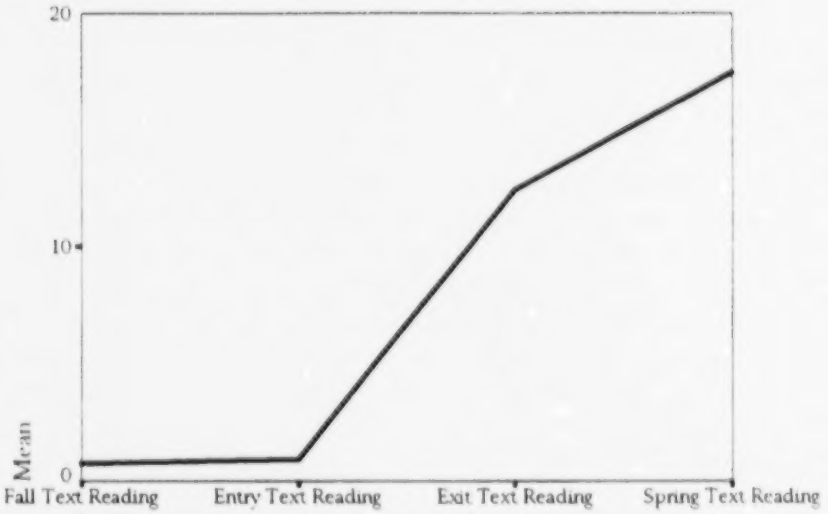


Figure 8. Text Reading Level of Children Discontinued by April 20

Table 11.
Progress of Children Discontinued Prior to April 20
As Measured by the Average Scores on Four Literacy Tests

Measure	Fall	Entry	Exit	Spring
Text Reading	0.75	0.98	11.81	17.48
Dictation	6.54	7.86	32.44	34.33
Ohio Word Test	0.51	0.86	13.41	16.95
Writing Vocabulary	4.67	6.10	38.43	45.05

Services for Children on the Waiting List

Some schools offered extra help, delivered in a group setting, for children placed on the waiting list for Reading Recovery. Sometimes this help was a literacy group led by a trained Reading Recovery teacher, and sometimes it was another, more typical form of remedial assistance. Even though the techniques of Reading Recovery are not applicable to teaching in a group setting, Reading Recovery teacher training includes in-depth study of theories of literacy learning, and this knowledge base may carry over into the Reading Recovery teacher's group teaching. To examine this idea, the type of intervention provided to children on the waiting list was recorded. There were three categories of this extra help: literacy group with a trained Reading Recovery teacher, other extra help, and no extra help at all. The groups, however, could not be randomly assigned because resources are so varied at each site.

Waiting List Children

How did the children in the literacy group with the trained Reading Recovery teacher do (compared to the other two groups) on the four achievement measures? Even though they did not receive Reading Recovery, was the teacher's Reading Recovery training a benefit? Figure 9 shows that it was. Discontinued children are shown, for purposes of comparison, along with the three groups of waiting list children. The other three measures of literacy skills yielded similar results. The data are given in Table 12. The other-extra-help group's spring text reading scores were significantly lower than those of both the literacy group with the trained Reading Recovery teacher and the no-extra-help group.[3]

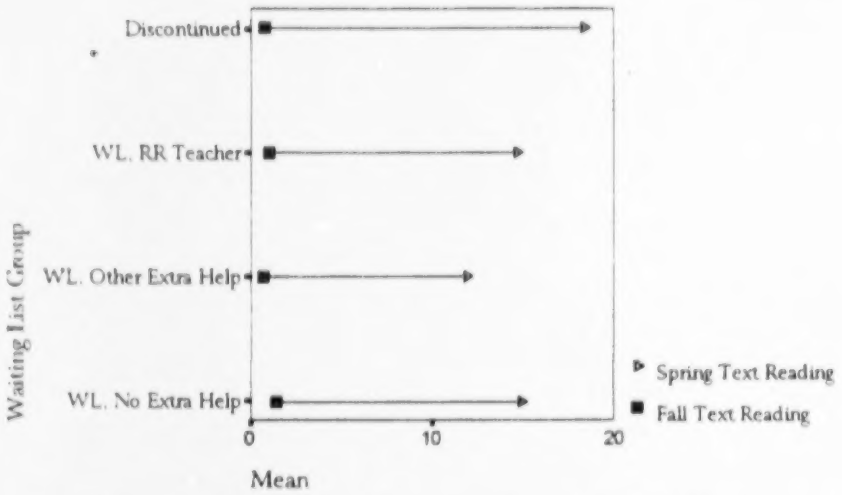


Figure 9. Text Reading Progress - Waiting List Children.

[3] Omnibus one-way ANOVA, $F_{2,343} = 6.69$, $p = .001$. Bonferroni test done on all three pairwise comparisons, $p < .05$ for both the comparison of the literacy group with other help and for the comparison of no extra help with other help.

Table 12. Progress of Waiting List Children (Means) on Four Measures						
Measure	Literacy Group with Trained Reading Recovery Teacher		Other Extra Help		No Extra Help	
	Fall	Spring	Fall	Spring	Fall	Spring
Text Reading	1.04	14.71	0.74	11.95	1.38	14.99
Ohio Word Test	0.90	16.30	0.51	15.51	1.30	16.55
Writing Vocabulary	7.71	44.58	5.69	38.43	7.70	42.34
Dictation	11.50	33.63	10.22	32.84	11.95	33.48
N	72		148		128	

Second Round Children

Some children who were on the waiting list initially did receive Reading Recovery after time slots opened up for them. These children are called **second round Reading Recovery children** because they received Reading Recovery after the first set of children left the program. These children, in general, weren't quite as needy as first round children, but many of them had been identified as needing Reading Recovery at the beginning of the year. Also included in the second round were children who were not identified as needing Reading Recovery in the fall, but whose teachers recommended it for them in the middle of the year. Current screening procedures are often based on the recommendations of the kindergarten teacher or teachers. Two questions are important to ask about second round Reading Recovery children. First, how did early help (if any - this only applies to second round children who were on the waiting list) affect the child's achievement (i.e., spring scores)? Second, how did early help (if any) affect the child's speed of progress to discontinuation?

In Figure 10, it appears that both the literacy group with the trained Reading Recovery teacher and the other extra help were able to help second round children discontinue from Reading Recovery in a somewhat shorter amount of time than children who received no extra help earlier. Although the mean differences between some of the pairs of groups in Figure 10 is a week or more, the differences are not statistically significant.[4] Note that the group marked "not on waiting list" is composed of students who were not identified at the beginning of the year as needing help. However, by the middle of the year, as space was available, they were referred to the program. The no-extra-help group was on the waiting list before receiving

[4] Omnibus one-way ANOVA for total weeks: $F_{3,292} = 2.6$, $p = .06$; Bonferroni test revealed no pairwise comparisons significant at the .05 level. Omnibus one-way ANOVA for number of lessons: $F_{3,293} = 2.1$, $p = .10$; Bonferroni test revealed no pairwise comparisons significant at $p < .05$

services. However, extra help was either not available in these children's schools, or else they were not placed in the most needy categories who would receive this help.

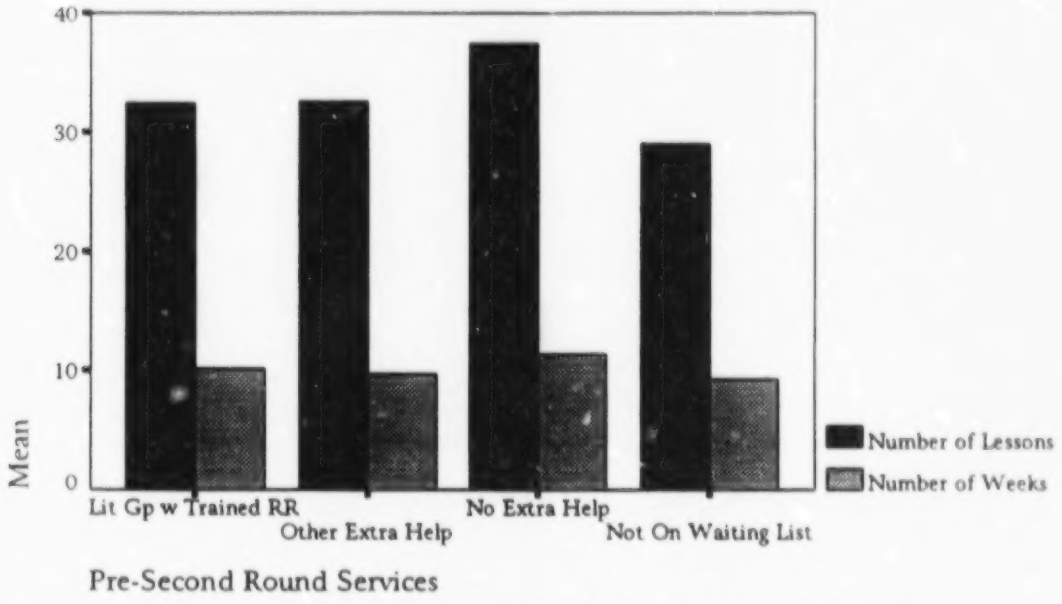


Figure 10. Time to Discontinuation for Second Round Children.

Figure 11 shows the spring scores on four measures of literacy achievement for second round children. Among the achievement scores, text reading level is significantly higher for second round children who were in a literacy group with a trained Reading Recovery teacher than for second round children who were not on the waiting list.[5] No differences were significant for dictation[6] or for the Ohio word test.[7] Children in the literacy group with the

---

[5] Omnibus one-way ANOVA for spring text reading: $F_{3,289} = 2.8$, $p=.04$; Bonferroni test revealed the pairwise comparison between the literacy group and the not-on-the-waiting-list group significant at the .05 level.

[6] Omnibus one-way ANOVA for dictation: $F_{3,290} = 1.7$, $p=.17$; Bonferroni test revealed no pairwise comparisons significant at the .05 level.

[7] Omnibus one-way ANOVA for Ohio word test: $F_{3,277} = 1.4$, $p=.23$; Bonferroni test revealed no pairwise comparisons significant at the .05 level.

trained Reading Recovery teacher scored significantly higher than children in the other three groups on writing vocabulary.[8]

Figures 10 and 11 include only children who discontinued from the program. Second round children who did not discontinue often received so few lessons that discontinuation by June was not realistic.

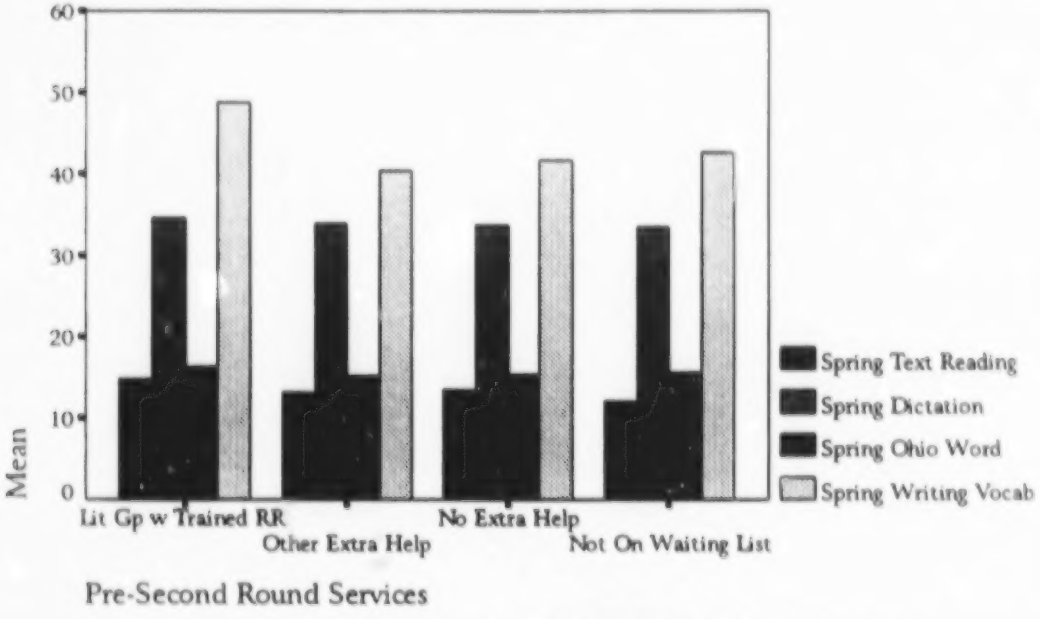


Figure 11. Achievement of Second Round Children Who Discontinued.

[8] Omnibus one-way ANOVA for writing vocabulary: $F_{3,290} = 6.3$, $p < .001$; Bonferroni test revealed all three pairwise comparisons involving the literacy group (literacy group versus other help, literacy group versus no extra help, literacy group versus not-on-the-waiting list) significant at the .05 level.

Attitudes About the Program

Administrators, trained Reading Recovery teachers, teachers in training, classroom teachers, and parents of Reading Recovery students from across the state of Maine were asked to complete surveys about their impressions of the Reading Recovery program in the 1994-95 school year. The evaluations were returned to the Reading Recovery Teacher Leaders, who summarized respondents' comments from their sites and turned in response summaries to the Center for Early Literacy. Data were returned from Teacher Leaders at ten sites in Maine. The results show considerable enthusiasm for Reading Recovery. Concerns focused on the future of funding and on the equitable selection of children for the program.

The individual questionnaires contained mainly open-ended, qualitative questions. Some items also asked respondents to rate the Reading Recovery program (or an aspect of the program) on a Likert-type scale. Both these quantitative ratings and the qualitative answers are summarized. Following each direct quotation is the name of the site, in parentheses, from which the comment originated.

Parents

One thousand, one hundred seventy-two questionnaires were distributed to parents of Reading Recovery students. Of these, 843 were returned, a rate of 72%. Parents were asked for their views of Reading Recovery, on a scale of 1 (not a very good program) to 5 (a very good program). The mean response was 4.9 (S=.25). Parents were enthusiastic and very positive about the program and the gains made by their children.

> When I first found out that [child] was having problems in reading, it really bothered me, because my other son had that same problem but he didn't get the help that [child] is getting. My son ended up quitting school because he had so many problems. I can't say enough good things about the RR program.
>
> RR was a crucial element in [child]'s early education. If RR had not been an option for him, reading (and all future subjects) would have been a constant failure. This program has provided the support that he needed.
>
> This has saved my son from years of agony in school.
>
> I wish it could have been there for *my* early grades.
>
> The kids get help early, and they don't think it's terrible that they have to go for extra reading; they think it's fun.
>
> I think this program made the difference in our son's school experience so much that otherwise he may have had to repeat 1st Grade.

Many parents also liked the contacts with the Reading Recovery teacher and the information about the program that was shared with them.

> I really enjoyed the 'Behind the Glass' session, it gave me a better idea of what the program is all about.

> I appreciated the teacher taking time to personally contact me by phone or notes, it showed a sincere caring for my child's progress.

Administrators

Two hundred thirty-five administrator questionnaires were distributed; of these, 189 were returned for an 80% response rate. When asked to rate Reading Recovery on a scale from 1 (not a very good program) to 5 (a very good program), administrators' average (mean) response was 4.9, and no one responded with less than a 4 (standard deviation (S) =.34). It is clear that Reading Recovery had tremendous support from school administrators.

> The impact has been seen in the regular first grade classes. Teachers have changed expectations and teaching techniques.

> The program continues to offer the most promising strategies for at-risk readers.

> All Reading Recovery children [at our school] would have had special education referrals at the end of K or earlier. None of them ended up there.

Most administrators were not only supportive of Reading Recovery themselves, but felt that faculty in their schools were also enthusiastic about it.

> [Teachers] are very positive about the program. They still feel it doesn't serve enough children.

> This is not a staff that jumps easily on 'bandwagons.' The fact that there is such school wide support is a measure of how good the program is.

Although administrators' comments overall were quite positive, some concerns were expressed. Many of these centered around funding.

> My biggest concern is that state and federal funding for this program, including the continued training of more teachers, continue. It is vital to the program's continuation as local budgets are being cut.

> I would like more students to receive RR, but not at the expense of regular classroom resources.

Some administrators raised equity issues, suggesting that the process of selecting children for Reading Recovery might not be as fair as it could be.

> [I am concerned about] the high cost and the small number of children involved.

> I'm concerned about "wasting" resources and time on students who show minimal benefit when there are many "wait listed" students who would take off with this program.

Trained Teachers

One hundred twenty-two trained Reading Recovery teachers returned 101 completed questionnaires for an 83% return rate. When asked how much they had learned in the past year on a scale from 1 (nothing) to 5 (a great deal), the mean response was 4.1 (S=.62). Nearly half the trained teachers responded with the highest rating.

When asked to rate Reading Recovery between 1 (not a very good program) and 5 (a very good program), the mean response was 4.9 (S=.35). Eighty-nine teachers (94% of those responding), reported that they viewed it a "very good program."

Reading Recovery Teachers responded to qualitative questions about the highlights of the year for them and about their concerns. Many voiced enthusiasm for the children's progress. Many also voiced concerns about their own professional development, and some related that they had had difficulties in coordinating with classroom teachers or parents.

> It is so exciting to see the children succeed and build a self-extending system. This is a highlight because I know these children will be confident in the classroom.

> I have found the continuing contact sessions so valuable as we were able to dig deeper into the theory of why something was or was not happening with a child.

The most often voiced concerns were to continue improving professionally and to avoid burnout. Professional contacts were greatly missed by many trained Reading Recovery teachers.

> I love teaching Reading Recovery, but I want to constantly upgrade my observational skills.

> [My greatest concern is] there seems to be less and less contact with people who have the info on new research and findings concerning RR.

> I have found it difficult to monitor my own growth as a RR teacher in this district. I feel as though I am facing the same problems as last year with less feedback on my own progress.

There will never be enough contact of the kind of contact I had my training year. But it's been great having a teacher-in-training this year so that there's finally someone at my school to discuss things with.

Another concern of Reading Recovery teachers, although not expressed nearly as often as that of professional growth, is the idea of working as a team with parents of students and with classroom teachers.

I wish the RR teachers and classroom teachers could work as a team to help the children.

Teachers in Training

Ninety questionnaires were distributed to the Reading Recovery teachers-in-training, and 86 were returned, a rate of 96%. One question asked for a quantitative answer to the following, "As a Reading Recovery teacher, how much have you learned this year?" Answers could be a number from 1 (nothing) to 5 (a great deal). The average was 4.9 (S=.27), with 92% of the respondents using the highest category. Some of the comments from teachers-in-training reflected what they had learned over the past year.

[My views of the reading process and the teaching of reading have changed] greatly! Never have I contemplated so thoroughly the processing and strategies involved in the act of reading.

Seeing a nonreader become a reader has been a highlight of the year. I know that it affords him the confidence and skills to succeed. It is, for him, life-changing.

Many of the comments emphasized that the training process is exciting and professionally invigorating. These comments dovetail with the comments of trained teachers who longed for more of this food for professional growth, and they underscore the importance of continued professional development for Reading Recovery teachers.

As I have made shifts in my thinking on how to best teach the lowest students I have also been through a process of re-examination of my teaching of all children. It has helped me to ferret out the most basic goals of my teaching and think about the most appropriate ways of getting there.

[Reading Recovery training] has changed and refined the way I teach reading and given me new understandings of how children learn to read. It has also re-energized me and given me a new lease on life as a teacher.

I have never experienced any course or training which has so effectively connected theory and practice.

I believe all educators need some form of BTG [Behind the Glass] and colleague visitations frequently.

Other comments included enthusiastic statements about children who had learned to read because of Reading Recovery.

[The highlight of my teaching experience this year has been] seeing a child that I thought would have to be withdrawn make connections at level 12 and begin to sail through the reading process. He was a hard to reach student who was not receiving consecutive lessons.

Some teachers described frustrations with their first year of Reading Recovery, and suggestions for how that first year might be improved for others.

It is very frustrating to realize that I am the only help a child gets other than the class teacher unless the child is labeled for special education. The stress of trying to do two jobs well has been tough.

Classroom Teachers

Five hundred three surveys were distributed to classroom teachers who had students in their classrooms receiving Reading Recovery services. Three hundred ninety-nine of these surveys were returned, a rate of 79%. The teachers were asked how much the Reading Recovery teacher had let them know about the progress of the students who were receiving Reading Recovery. They answered on a scale from 1 to 5; the mean was 4.7 (s=.37). They were also asked to rate the Reading Recovery program from 1 (not a very good program) to 5 (a very good program). The mean response to this question was 4.9 (s=.29).

Comments from classroom teachers often revolved around the pleasant surprise of a previously poor reader learning quickly and seeming to enjoy reading.

There are children who slip through the cracks who just need a short term 'push' to get them on track.

Having taught Grade 1 for many years, I like the components that make such successes. These high risk children would never get the gains they make with RR, had they not gotten the 1-1 attention.

The children 'learn how to learn' and transfer that throughout their school day.

This father had never read to his children. He does now! I call that a tremendous impact on the family.

Some classroom teachers felt enriched by the interaction with the Reading Recovery teacher, as in the following comments.

> I feel I benefitted a great deal from working with [RR teacher]. I hope that I'll have more RR students in the future.

> Our two RR teachers enliven and enhance the academic and collegial atmosphere of our building.

Classroom teachers generally felt that parents were supportive of the Reading Recovery program.

> [Parents] really respect the program. Parents are asking how their child can get in the program. Parents with children in the program are talking very positively about it to other parents.

The primary concern voiced by classroom teachers was equity, in other words, concern for the children who do not receive Reading Recovery.

> This is my concern - At first grade level, taking only the very bottom students - I feel the student that sometimes could benefit the most sometimes doesn't get help. One of my students has brain damage so he used a slot. Another student - of average intelligence but needing a jump start - didn't get into the program. At first grade level, students haven't always been identified for special services if there seems to be a problem.

> My only frustration is that all students who need the program are unable to have the services.

> I think many more children could benefit, but they score just a little too high to qualify, even though they are struggling in class.

> I wish more staff (RR trained) were available to help these students.

> [It is] my wish to see some kind of follow-up in the fall for all RR second graders!! I wish they could all be seen for 2-3 weeks for a "brush up." The transition to second grade is, for many, difficult. A quick check-in with a very familiar adult to review and practice strategies is essential. I really think this would cut down Chapter I referrals of our RR students.

A small number of classroom teachers were concerned that the children missed important information when they were out of class in Reading Recovery.

My one reservation... is that the children are often out of the room when important concepts are introduced. It is very difficult time-wise to 'reproduce' lessons for these children.

33

Conclusions and Recommendations

Reading Recovery has been successful in accelerating the literacy learning of many at-risk first graders in Maine. Children who discontinue reach the level of achievement of other first graders on many measures of literacy. They also continue to progress after the program is over for them. Rather than beginning their years of schooling floundering, they are on the path to successful learning by the end of first grade.

Based on the number of children being helped by Reading Recovery and the estimated number who needed services in 1994-95, the program should grow. Specifically, it should more than double in order to meet the needs of all the children in Maine who begin first grade with literacy difficulties. In order to grow, Reading Recovery will need to be adopted in more elementary schools in Maine.

A major goal for future years of the Reading Recovery program in Maine should be to increase the number of children who are discontinued from the program. There will need to be more trained teachers in the years to come, and maintaining quality professional continuing contacts for these teachers will be important. It will also be important to start second round Reading Recovery students in the program by January or February at the latest, so that they will receive enough lessons to make discontinuation a realistic possibility. The possibility of continuing some second round children into the second grade should also be considered, in districts where it is feasible.

Children on the waiting list benefit from extra help while they are waiting for Reading Recovery. Children who receive help in the form of a literacy group led by a trained Reading Recovery teacher are benefitted more than children who receive traditional extra help in a group setting.

Reactions to the Reading Recovery program were very positive for the 1994-95 school year. Administrators lauded it as a good program, some also asserting its cost-effectiveness. Classroom teachers praised the program, while raising worthy concerns about equity. Parents almost universally praised it. Reading Recovery teachers and teachers in training attested to its effectiveness in teaching children literacy skills and applauded the professional development training it offered them as well.

The biggest concern of the classroom teachers and some administrators was that Reading Recovery was not being distributed equitably to students who both needed it and could profit from it. One of the characteristics of the program that is both uplifting and frustrating is that success cannot be predicted. That is, there are no known traits or characteristics of children that can be used to predict whether they will or will not meet with success through Reading Recovery. Some children do not benefit, but these children cannot be "weeded out" at the beginning. This is uplifting because every child (barring most cases of severe mental or physical disability) is given an equal chance at success. It is frustrating because it means that some children who are not successful take up the "slots" that other children, who could have been successful, might have filled.

Another concern, voiced by administrators, Reading Recovery teachers, and classroom teachers, is that there needs to be more classroom support for Reading Recovery. This is an issue that the University of Maine College of Education foresaw several years ago.

"Observing Young Learners to Inform Instruction" is a graduate course offered by the University of Maine's College of Education for in-service K-2 teachers. It is based on the same theory of reading as is Reading Recovery and offers students hands-on experience in teaching literacy skills to children. Evaluations of the course by participants have been very positive. Among other things, communication between classroom teachers and Reading Recovery teachers can improve when they are able to speak from the same theoretical base.

Classroom teachers who were able to interact with the Reading Recovery teacher or teachers often found that this was a positive, enriching experience. It is reasonable to expect that with little or no communication, classroom teachers are likely to feel somewhat alienated or even threatened by a Reading Recovery teacher who teaches a previously non-reading child to read. It is important to stress that Reading Recovery does not simply bring an expert to do what the classroom teacher could not. Reading Recovery is meant to be "something extra," on top of good classroom instruction. It is based on the idea that some children need extra help in a one-on-one setting. A classroom teacher can only spend limited time with a child one-on-one without sacrificing the educations of the rest of the students.

The final concern, raised by respondents from all categories, is the threat to continued funding for Reading Recovery. Even respondents who raised concerns with the program expressed the strong desire to continue it. Reading Recovery's successes, along with positive statements from administrators, teachers, and parents, are the best reasons to continue the program into the future.

References

Clay, M.M. (1991). *Becoming Literate: The Construction of Inner Control.* Auckland, New Zealand: Heinmann Educational Books.

Clay, M.M. (1993). *An Observation Survey of Early Literacy.* Portsmouth, NH: Heinemann Educational Books